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# Interaction between Fishing Activities and Marine Turtles in Myanmar

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## ABSTRACT

In Myanmar water five marine turtle species are found. Nowadays, marine turtles are incidentally caught and injured during fishing activities. Marine turtles are one of the internationally listed aquatic endangered species for long term protection and conservation. The Department of Fisheries (DoF) has taken up a project to propagate and conserve marine turtles on Thameehla Island in Labutta Township, Ayeyarwady Region since 1963 and prohibited the use of fishing gears having harmful effects on marine turtles. According to mandatory laws, regulations, notifications and announcements, any kind of mechanized fishing is prohibited within five miles (in Rakhine State) and ten miles (in Ayeyawady and Tanintharyi Region) of the shore along the coast. Sometimes fishing gears near the turtle nesting areas which are against the laws and regulations, not only affect the turtles but also cause serious impact on sea grass beds and coral reefs. The fishermen, living near the turtle conservation areas report to DoF if they found turtles and released the turtles which are captured incidentally after treating them. To reduce the death of marine turtles due to fishing activities the DoF has laid down guidelines. It is important that fishery workers are trained to use a type of fishing gear, which will be effective in catching fish but harmless to turtles. In this regard, the DoF is educating the fishermen and public living in the coastal areas. Strict enforcement of the mandatory laws and prohibiting near shore-mechanized fishing seems to be the best short-term solution to reduce the turtle mortality.

**Keywords: Marine Turtles, Fishing Activities, Laws and Regulations, Awareness and Education Programme**

## INTRODUCTION

Since 1963, the Department of Fisheries (DoF) has taken up a project to propagate and conserve marine turtles on Thameehla Island (Diamond Island) in Ngaputaw Township, Ayeyawady Region and since 1986-87, the project was fully revived and a hatchery was established.

Nesting of turtles is observed around the Andaman Sea, Gulf of Mottama (Gulf of Mattaban), Thameehla Island and Bay of Bengal.

Currently in Myanmar, the Department of Fisheries (DoF) has sighted at least 35 nesting sites in areas along the coastal region. Among those, six are closely conserved by undertaking monitoring and surveillance of turtle landing sites, clutches and magnitude of hatchlings able to return to the sea.

Although Myanmar started marine turtle conservation in 1986 the momentum of the activity was not accelerated until Myanmar became a member of the Southeast Asian Fisheries Development Center (SEAFDEC) in 1999. As a member, Myanmar was able to participate in trainings and workshops related to conservation and enhancement of turtle conducted by SEAFDEC. Generally marine turtle conservation activities are

conducted in collaboration with, and with the assistance of the Southeast Asian Fisheries Development Center (SEAFDEC).

Since September 2001 the turtle conservation activities have been enhanced, as the collaboration with International agencies and organizations are extended. The Memorandum on “*Understanding on Conservation and Management of the Marine Turtle and their Habitats of Indian Ocean and South-East Asia*” was signed between DoF Myanmar and IOSEA. At present, Myanmar is cooperating, collaborating and participating with institutions like ASEAN-SEAFDEC, IOSEA (MoU), IOTN and SEASTAR 2000.

## DISTRIBUTION OF MARINE TURTLES

Five species are commonly seen nesting regularly in Myanmar. They are olive ridley, loggerhead, green, hawksbill and leatherback turtles. However, loggerhead and leatherback species are assumed almost extinct.

**Table 1. Distribution of Marine Turtles in Myanmar**

Location	Leather back	Logger head	Green	Hawks bill	Olive ridley
Ayeyarwaddy	*		*	*	*
Rakhine	*	*	*	*	*
Mon			*		*
Tanintharyi	*		*	*	*
Yangon	*		*	*	*

**LAWS, REGULATIONS and NOTIFICATION**

In the Fisheries Act (III – 1905), protection for the turtle hatching areas and turtles was included and those who were trespassing on those areas without official consent were effectively penalized.

In 1924, the Government of Burma, Agriculture (Forest Department) Notification No.1 made an official announcement, not to trespass within 3 miles radius from the turtle hatching areas.

In 1990, the Myanmar Marine Fisheries Law (DoF); envisage that no person shall search for and collect any marine products without a License (Article 40).

In 1993, the Department of Fisheries issued the Notification No.2/93 for "Sea Turtle Conservation".

The new protection of Wildlife, Wild plants and Conservation of Natural Areas Law replacing the old Myanmar Wildlife Protection Act of 1936 was enacted in 1994 (Forest Department).

**FISHERIES INTERACTION WITH MARINE TURTLES**

Marine turtles are incidentally caught and injured during the fishing activities. Department of Fisheries has also prohibited the use of fishing gears having harmful effects on marine turtles and measures are being well encouraged. It is important that fishery workers learn to use a type of fishing gear, which will be effective in catching fish but harmless for turtles.

Some villagers and fishermen inform that when the turtles are caught in their fishing net, they tried to release them back into the sea. If turtles died they consume the meat of turtles and sell the carapace to the market.

Moreover, fishermen have been instructed to release back marine turtles unharmed if turtles are caught accidentally in their fishing gears. The large-scale turtle mortality is the result of incidental catch in fishing gears. To counteract these arguments quantitative information on observed captures of marine turtles and the rate of mortality of these individual offshore and inshore fishing operations is absolutely essential. In the interim, strict enforcement of Myanmar Marine Fisheries Law (1990), which prohibits any kind of mechanized fishing within five miles (in Rakhine) and 10 miles (in Ayeyawady and Tanintharyi) of the shore along the coast, is needed. A blanket ban on

near shore mechanized fishing should significantly reduce the turtle mortality. In Myanmar, there is no intentional catching of marine turtles in the sea.

Fishing activities can be divided into three types namely:

**a. In - shore Fisheries**

-5 nautical miles from shore (in *Rakhine coastal*)

-10 nautical miles from shore (in *Ayeyawaddy & Tanintharyi*)

- Boat no more 12 hp engine & 30 feet in length.

**b. Off-shore fisheries**

- Outer area of inshore to end of Exclusive Economic Zone (EEZ)

- Boat more than 12 hp engine.

**c. Small-scale fisheries**

-Along the shores for livelihood of local fishermen and their families.

In offshore fisheries, trawls, gill nets, purse seines, stowed nets, long-lines and traps are common in Myanmar. In inshore fisheries, purse seines, stowed nets, drift gill nets, trammel nets and traps are used. In case of local fisheries, beach surrounding nets, stowed net, drift gill nets, trammel nets and traps are commonly utilized.

As there are cases of marine turtle being incidentally caught and injured during the fishing season, there are also cases of killing and consuming of marine turtles which come to take shelter because of adverse weather conditions. Eggs are also poached and consumed.

In some areas, the fishermen believe that killing and eating of any kind of turtle meat can have adverse effect on their income, consider it unlucky and that mishaps could befall them.

**INFORMATION GATHERING, EDUCATION AND AWARENESS**

The public needs to be widely educated and informed for the conservation and protection of marine turtles. For this purpose, the DoF is educating the fishermen and public living in the coastal areas, on the conservation and protection of marine turtles by:-

- (i) Distributing pamphlets and posters
- (ii) Erecting educational signboards at fish landing jetties and in the rural areas
- (iii) Broadcasting awareness programs both in Myanmar and English on radio and TV
- (iv) Conducting training and holding of talks

The DoF through its offices in State/ Regional/ District/ Township level is distributing

questionnaires and Tag Wanted posters to the fishing communities in order to receive the feedback..

As preservation of marine turtles in Myanmar waters and their prosperity depend on the interest and the participation of the people, education programs have been initiated targeting the fishery communities and the local people along the coastline.

The DoF is finding difficulties in getting the feedback from fishing vessels and fishing villages regarding the marine turtles because of:-

- (i) Inaccuracy of the feed back
- (ii) Holding back what they knew (being afraid that action will be taken against them according to existing Laws and Regulations)
- (iii) Insufficient equipment, transportation and communication
- (iv) The fishing vessel owners and the fishermen are placing their personal interests in the frontline.

The fishermen and their families living near the turtle conservation stations of DoF, however, reported to DoF and released the turtles which are captured incidentally after treating them showing their cooperation with DoF. As an incentive to small scale fishermen who cooperate in marine turtle conservation and volunteer information, the DoF has allowed them to fish without license.

## CONCLUSION

To reduce the death of marine turtles due to fishing activities, the DoF has laid down the following guide lines:-

- (i) to cooperate with Forestry Department, Governmental Organizations (NGOs) which participate in the conservation activities.
- (ii) to promote the cooperation between fishing entrepreneurs, fishermen, and local fishermen regarding the marine turtle conservation.
- (iii) to identify programs for cooperation with International and Regional agencies.

Although DoF is carrying out the marine turtle conservation with many difficulties, it is (with whatever source available) protecting the population of marine turtles from the death and injury caused by the fishing activities, one of the main factors which causes decrease in population of marine turtles. The DoF's main thrust is to create the awareness on the importance of marine turtles by organizing the people living in the coastal areas to cooperate in conservation activities.

The use of Turtle Excluder Devices alone will not mitigate turtle mortality resulting from

fisheries. Additional factors, which must be considered, are that in areas of high fishing intensity, turtles that are captured and released several times may die and turtles are also caught and drowned in gill nets. Therefore strict enforcement of the existing laws, prohibiting near shore-mechanized fishing seems to be the best short-term solution to reduce turtle mortality.

DoF, understanding the importance of marine turtles, will continue to carry out the activities such as:-

- (i) organizing the concerned people to cooperate in the conservation activities
- (ii) collecting data on turtle population
- (iii) getting feedback from different levels in the coastal areas

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